Connectionless OAM yang model
draft-kumar-lime-yang-connectionless-oam-05

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Status Update

- Had two interim meeting since Buenos Aires, Discussed in second interim meeting arranged by chairs after Last IETF95 meeting.
  - Get huge amount of reviews from Greg, Ron and other Participants during Editor session (Thanks to Greg)
  - Remove a lot of parameters that deems as technology specific
- Spend plenty of time on the list to discuss passive performance measurement method and drop it given its immaturity.
- Get addition review from YANG Doctor(Thanks to Mahesh) and Reshad, Sam,etc.
- Submit a new version(v-05) with all the comments addressed.
- LIME applicability wiki page is waiting for the update after adoption

    https://tools.ietf.org/wg/lime/trac/wiki/lime-applicability

Model Design Goal

- Serve as generic framework for connection oriented OAM technology, e.g., BFD, MPLS OAM, IP OAM.

- Take Top down approach instead of bottom up approach, the model can be used by User, such as Network Admin to talk with the management system to perform automatic network diagnostic and troubleshooting.

- The Model Design detail is documented in Backup slides.

Change after last IETF meeting and two interim meetings

- Remove inappropriate parameters in tools such as RFC5880, RFC5885, RFC5882, RFC6375, RFC6428 (Based on Carlos's comments)
- Align description of the model provided in Section 3 with the model hierarchy
- a pair of source and destination addresses and TLV address goes away from from ietf-connectionless-oam
- Long-lived vs. Short-lived issue is addressed by using on-demand and proactive defined in RFC7276.

Change since Last IETF meeting

- Separate data-retrieval methods as another model and focus on CC and path discovery

- Add Common Session Information as it's applicable to BFD,TWAMP/OWAMP and etc

- Performance Monitoring to be added as separate draft

- FEC as an attribute of TP-location has been taken out from ietf-connectionless-oam

Mess on Passive performance measurement methods support ☺

- Pro:
  - passive OAM is widely adopted in the practice
  - draft-tempia-ippm-p3m-03 is one passive oam document which has been adopted as informational WG draft in IPPM WG
- Con:
  - Add passive in band in the CL model is premature since in band oam
  - There are no too much passive OAM work that has been standardized.

Conclusion:

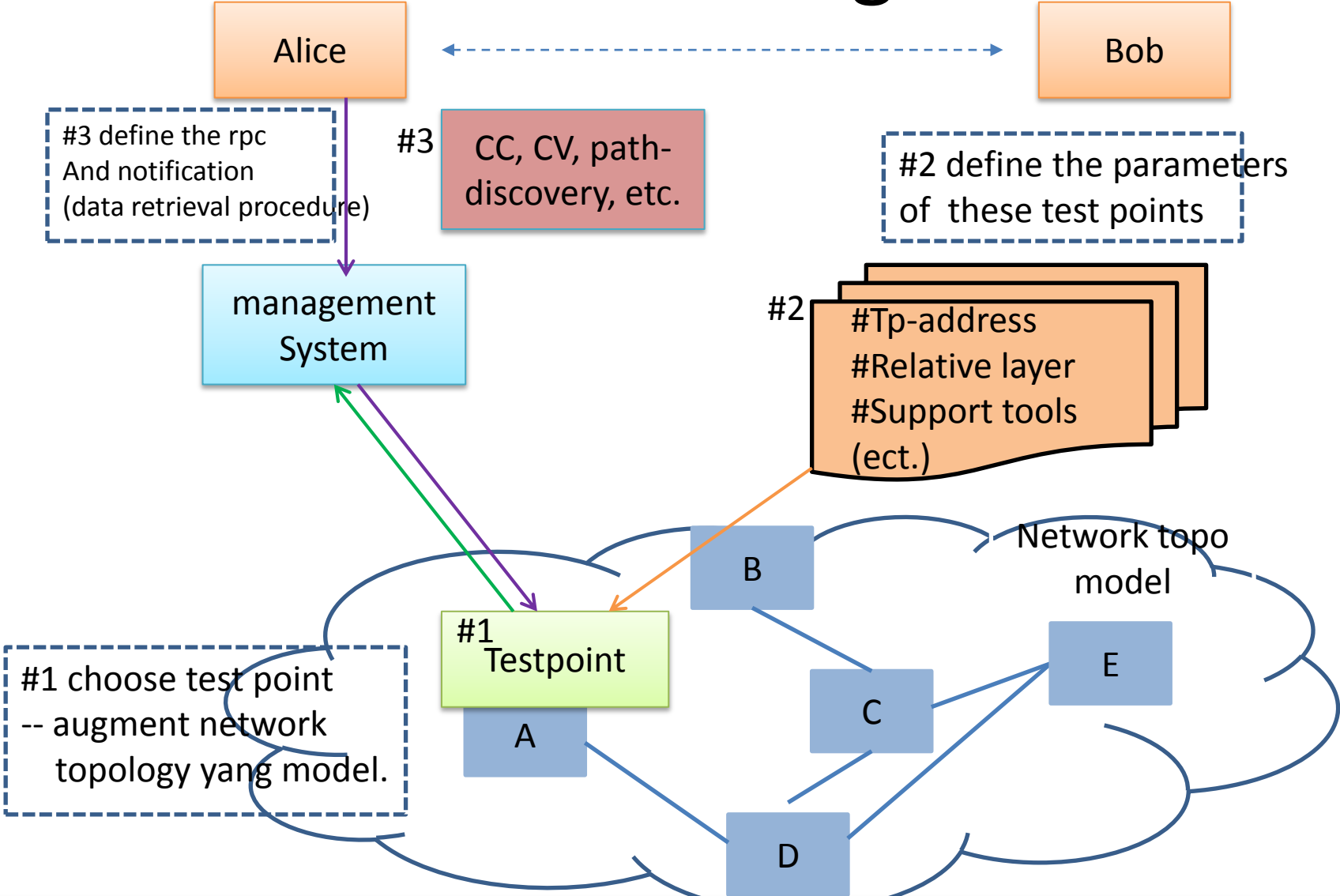Not add passive OAM support in the CL model

Next Step

- Now closed the Passive Performance Measurement issues

- We are a long way behind schedule

- The draft is now stable and well-polished

- Given the above reasons, we need to adopt it .

BackUp Slides

Model design

Alice ↔ Bob

#3 define the rpc
And notification
(data retrieval procedure)

#3 CC, CV, path-discovery, etc.

#2 define the parameters of these test points

management System

#2 #Tp-address
#Relative layer
#Support tools
(ect.)

Network topo model

#1
Testpoint

B

E

C

A

D

#1 choose test point
-- augment network
   topology yang model.

Break Model in Two modules Oam Data and Oam Data retrieval Methods

Connection-less OAM model (1)

- TP Address
  - Generic Representation of Test Point Address
- Tools
  - Describe Toolset for Fault detection and Isolation
- Oam Layers
  - In future, it can provide way to relate Oam Test Points for Connection Less
  - Default Level 0(same layer), so if relationship is not known it's not required to be implemented
  - Provide OAM Test points to relate to each other as same layer, client layer, and server layer.
- Test Point Locations Group
  - choice per location-type (ipv4-location-type, ipv6-location-type, etc.)
    - Container test-point-xx-location-list
      - Key xx-location
      - Test Point Location Information
        » Tools
        » Oam Layers
- Path Discovery Data
  - Generic grouping for path discovery data
- Continuity check data
  - Generic grouping for continuity check data

Connection Less OAM Method Model (2)

- RPC
  - Continuity Check
    - Support Reachability Verification
      - Continuity Checks are used to verify that a destination is reachable, and are typically sent proactively, though they can be invoked on-demand as well.
  - Path Discovery / Fault localization
    - Identify nodes along the route to destination Test point

Model Structure

Ietf-network model ← --- test-point-location-list

draft-ietf-i2rs-yang-network-topo

augment

Feature: connectionless

test-point-locations

Key: ipv4-location or
ipv6-location or
tunnel-location or
mac-address-location
or ip-prefix-location,etc

ipv4-location

tp-address

tool

Choice: Test point address
Case:

mac-address

FEC

ipv4-address

ipv6-address

Choice: toolset for
fault detection and
isolation

Case:

ip-pingtrace

tools-mpls

tools-bfd

tools-pw

Oam-layer

Key: index

index

level

Case:

Choice: Test point address

tp-address

mac-address

ipv4-address

ipv6-address